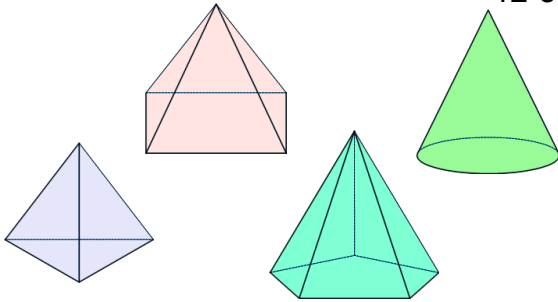
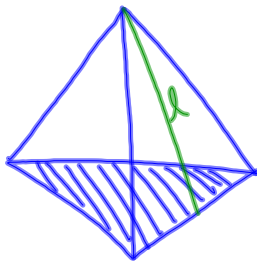
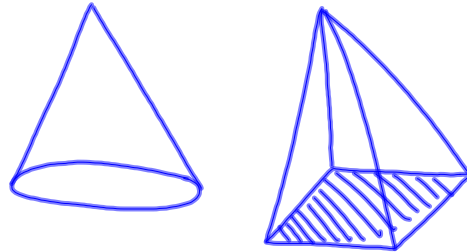


# Pyramids and Cones

12-3  
12-5



Draw some.



## Pyramids

lateral faces--triangles

Sketchup\_square

Sketchup-triangle

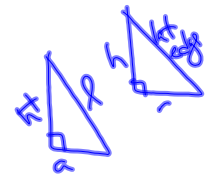
altitude-height

slant height

(ht. of the lateral face)

regular pyramid

- base regular polygon
- lateral edges congruent
- lateral faces congruent isosceles triangles
- altitude goes to the center of base



$$LA = \frac{1}{2}pl$$

$$SA = LA + B$$

$$V = \frac{1}{3}Bh$$

P-perimeter  
of base  
l-slant ht  
B-area of  
base

Square pyramid

side is 6cm  
lateral edge is 5cm

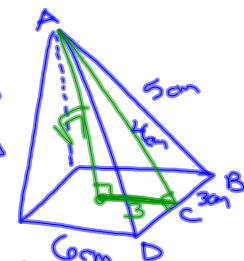
$$p = 24 \text{ cm}$$

$$B = 36 \text{ cm}^2$$

$$LA = \frac{1}{2} 24 \cdot 4 = 48 \text{ cm}^2$$

$$SA = 48 + 36 = 84 \text{ cm}^2$$

$$V = \frac{1}{3} 36 \cdot \sqrt{7} = 12\sqrt{7} \text{ cm}^3$$



$$h^2 + 3^2 = 4^2$$

$$h = \sqrt{7}$$

$r = 5\text{cm}$

$h = 6.9\text{cm}$

$l = 8.5\text{cm}$

$C = 10\pi\text{cm}$

$B = 25\pi\text{cm}^2$

$LA = \frac{1}{2} 10\pi \cdot 8.5 \approx 133.5\text{cm}^2$

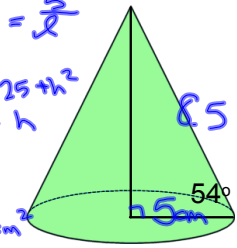
$SA = 217.1\text{cm}^2$

$V = 180.6\text{cm}^3$

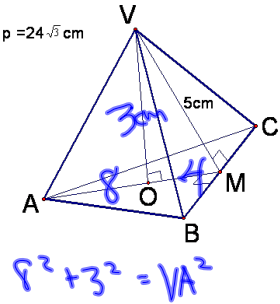
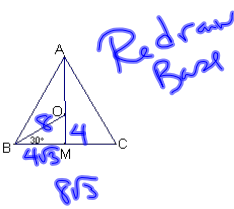
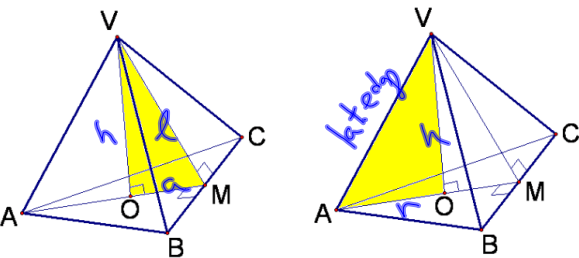
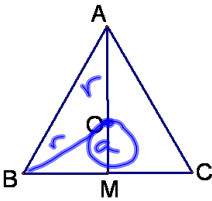
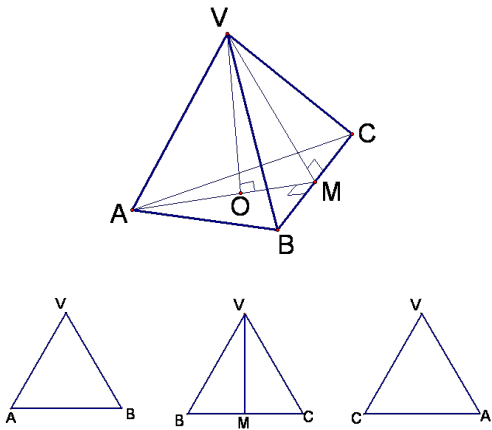
$\cos 54^\circ = \frac{5}{l}$

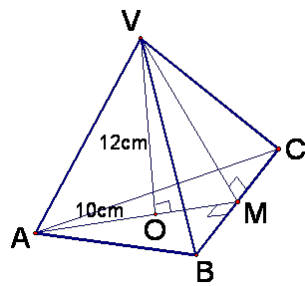
$8.5^2 = 25 + h^2$

$= h$



ws





Oblique pyramids and cones use the same volume formula!

HW

p814-815

#s 3, 4, 6, 7, 22

p832-833

#s 3, 4, 6, 9, 14, 16, 21

Attachments

---

square\_pyramid.skp

triangular pyramid slant height.skp